

IN THE DRAWINGS

Applicants propose to label the blocks in Figs. 1-3 of the drawings in accordance with the accompanying ANNOTATED SHEETS SHOWING CHANGES.

Enclosed herewith are REPLACEMENT SHEETS in which the above changes have been incorporated.

REMARKS

The claims have been amended to more clearly define the invention as disclosed in the written description. In particular, claims 4, 15 and 20 have been cancelled, while claims 1, 9 and 23 have been amended to include the limitations of cancelled claim 4, and claim 12 has been amended to include the limitations of cancelled claim 15. In addition, the claims have been amended for clarity.

The Examiner has rejected claims 1-24 under 35 U.S.C. 103(a) as being unpatentable over European Patent Application No. EP 0996124 A1 to Ono et al. in view of U.S. Patent 5,790,489 to O'Connor.

The Ono et al. patent discloses an optical disk and recording/reproduction apparatus using the same, in which a semiconductor IC chip is incorporated in the optical disk and includes a memory for storing certain control information. The IC chip further includes receiver means for receiving power in the form of a signal to be supplied to the circuitry of the IC chip, and transmitter-receiver means for the communication of control information between the optical disk, i.e., the IC chip, and the recording/reproducing apparatus.

The O'Connor patent discloses a smart compact disk including a processor and a transmission element in which a compact disk has a processor having a photosensitive array which, when

illuminated by a laser in a compact disk read head, generates a current used to energize a transmission element optically coupled to the compact disk reader for transmitting a stored information signal.

The subject invention also relates to an optical disk having a integrated circuit incorporated therein. In addition, the subject invention, as claimed in claim 1, further includes the limitation "means for generating a first communication channel operating at a first frequency" and "means for generating a second communication channel operating at a second frequency, the first frequency being substantially unequal to the second frequency".

As described in the specification on page 2, line 26 to page 3, line 4, "the communication signals [on the first and second communication channels] are decoupled so that disturbances can be reduced or avoided".

The Examiner indicates that the limitation "said integrated circuit comprises means for generating a first communication channel operating at a first frequency; and means for generating a second communication channel operating at a second frequency, the first frequency being substantially unequal to the second frequency" is disclosed in Ono at col. 7, line 55 to col. 8 line 58 and Figs. 4 and 5 therein.

Applicants submit that the Examiner is mistaken. In particular, the section of Ono et al. indicated by the Examiner

describes two separate methods/means for sending signals to the communication circuit 27 for control information transfer and power supply, i.e., a lower transmission band and a higher transmission band, depending on the main information recording band or the reproduction band in the case of multiple-speed reproduction of the main information "so that the signals do not affect the recording and reproduction of the main information." However, there is no disclosure that the method/means for effecting the lower and higher transmission bands are used at the same time. In fact, as indicated in Ono on page 2, lines 49-53, "Accordingly, one of the following two kinds of means are required depending on the band of the signals transmitted to the electromagnetic coupling means for control information and power supply (emphasis added)."

Hence, Applicants submit that Ono neither discloses or suggests "means for generating a first communication channel operating at a first frequency" and "means for generating a second communication channel operating at a second frequency, the first frequency being substantially unequal to the second frequency".

Claim 8 claims "the first frequency is in an optical frequency range and the second frequency is in a radio frequency range".


The Examiner indicates that this is disclosed in Ono at col. 8, lines 11-58, setting the transmission band to higher and lower frequency.

Applicants believe that the Examiner is mistaken. First, Ono et al. only describes alternatively using the higher or lower frequency. Second, Ono et al. indicates that the main information signal having a recording bandwidth between 100 kHz and 30 MHz. Hence, the lower frequency is below 100 kHz while the higher frequency is above 30 MHz. However, in either situation, the communication channel is effected by means of electromagnetic coupling which is indicative of the radio frequency range. In order to effect coupling at an optical frequency range, an optical coupling is required. As noted in the subject specification on page 2, lines 31-33, the optical is "for example, realized by means of a LED and a light sensitive sensor, for example, a photodiode; for example, at a frequency of 375 THz at a wavelength of 800 nm". It should be understood that 1 THz (terahertz) is equivalent to 1,000,000 MHz (megahertz).

In view of the above, Applicants believe that the subject invention, as claimed, is not rendered obvious by the prior art, either individually or collectively, and as such, is patentable thereover.

Applicants believe that this application, containing claims 1-3, 5-14, 16-19 and 21-24, is now in condition for allowance and such action is respectfully requested.

Respectfully submitted,

by 
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On March 10, 2006

By Burnett James

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A diagram of a circular antenna system. It features a series of concentric circular rings, with the outermost ring labeled '1'. In the center of the rings is a rectangular component labeled '4', which is identified by a line pointing to it from the text 'INTEGRATED CIRCUIT'. To the right of the integrated circuit is a small circle labeled '2'. The entire circular structure is labeled '3' on the right side.

FIG. 2

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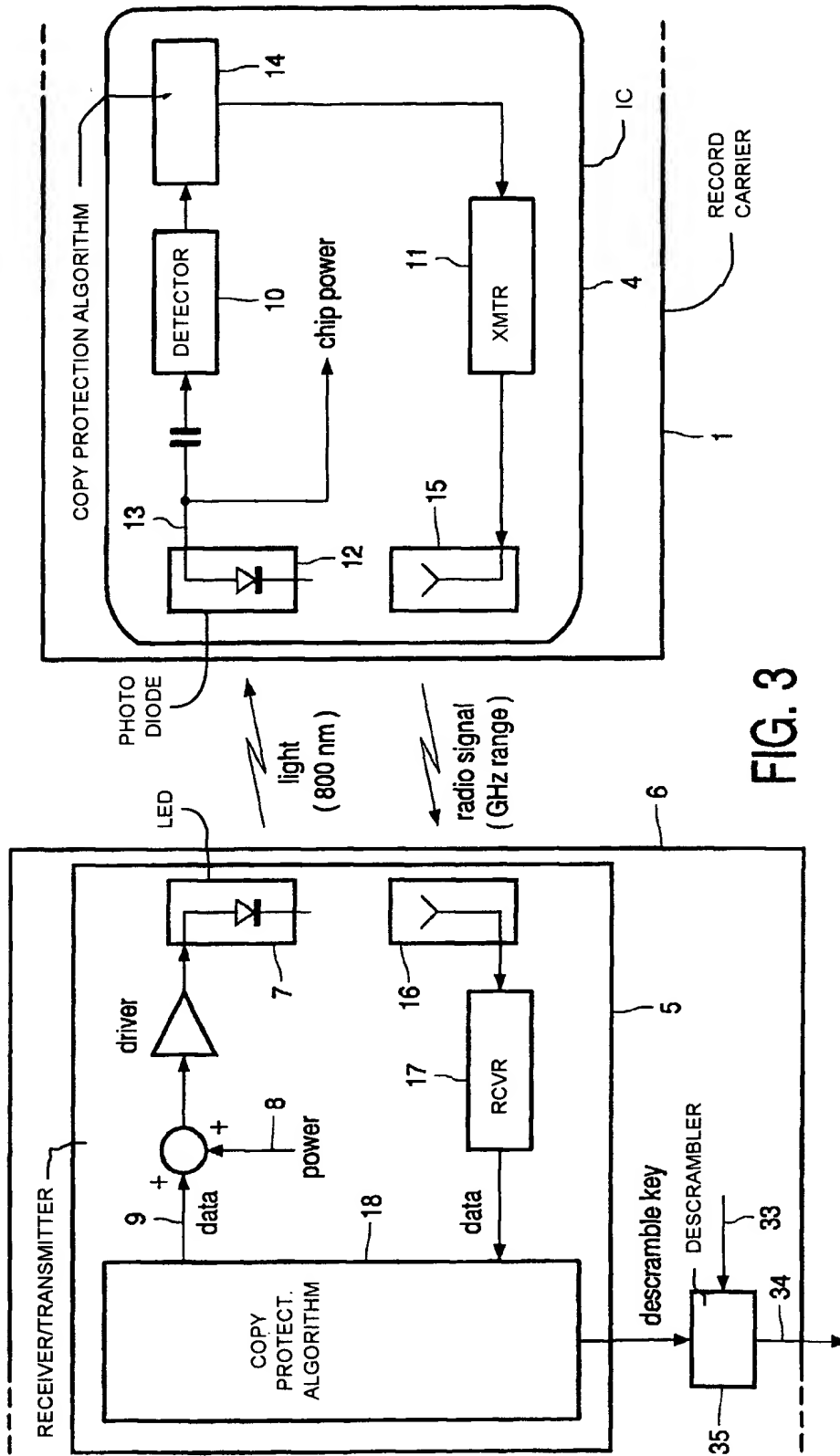


FIG. 3